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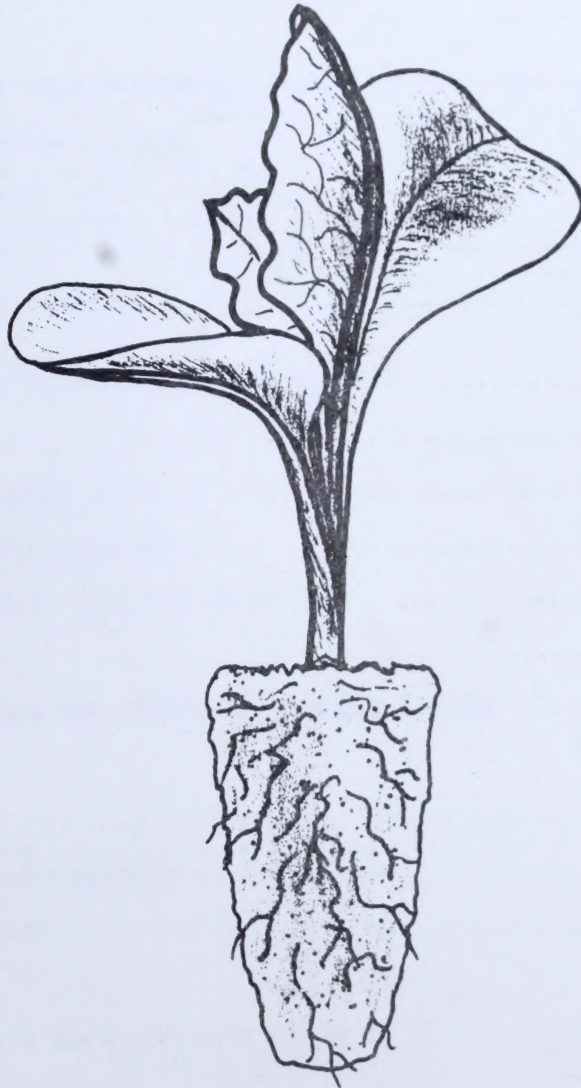
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ALBERTA TREE NURSERY AND  
HORTICULTURE CENTRE

# ALBERTA PRODUCE NOTES

March 88-2





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## EDITORIAL

Thank you for responding to the Grower Survey and Mailing List Up-Date. This department is considering all of your comments and concerns, and will try to respond to all of them through it's programs. The mailing list will be up-dated for the April edition of this newsletter. If you have not sent in your mailing list up-date form by March 15, 1988, please note that your name will be removed from our mailing list and you will no longer receive this newsletter.

Some of you are unaware of, or don't know how to make full use of the free-of-charge government telephone service called the RITE (Regional Information Telephone Enquiry) System. I've enclosed a fact sheet on how to make use of the RITE System.

For those of you living outside the toll-free area of a R.I.T.E. Centre, utilize the following procedure: Dial "0" and ask the AGT Operator for Zenith 22333. The call would then be connected, toll-free, to the closest R.I.T.E. Centre.

### New Phone Number for Alberta Tree Nursery & Horticulture Centre

PLEASE NOTE - after March 6, 1988 the Alberta Tree Nursery and Horticulture Centre in Edmonton will have a new phone number. The new number will be 472-6043.

BELINDA CHOBAN  
Editor

### Vegetable Crop Extension Specialist:

- |   |  |
|---|--|
| <p>A) Serving central-northern Alberta<br/>Belinda Choban<br/>Alberta Tree Nursery &amp;<br/>Horticulture Centre<br/>R.R. #6<br/>Edmonton, Alberta T5B 4K3<br/>(403) 973-3351 before<br/>March 7, 1988<br/>(403) 472-6043 after<br/>March 7, 1988</p> | <p>B) Serving southern Alberta<br/>Paul Ragan<br/>Alberta Special Crops &amp;<br/>Horticultural Research<br/>Centre<br/>Bag 200<br/>Brooks, Alberta T0J 0J0<br/>(403) 362-3391</p> |
|---|--|



## **PROBLEMS WITH WINTER CABBAGE VARIETIES**

Due to declines in seed sales, Houston Evergreen and Storage Green have disappeared from the market. In a continuing effort to provide alternatives to variety recommendations, the Research Center at Brooks in 1987 has tested a host of new winter varieties. After four months in storage the following are recommended.

<u>Variety</u>	<u>Days to Maturity From Seed</u>	<u>Seed Source</u>
Lennox	133	Seedway Inc., Hall, NY, 14463; phone: 716/526-6391
Stonar	133	Stokes Seeds Ltd., Box 10, St. Catharines ON, L2R 6R6; phone: 1-800-263-2433
Brutus	133	Seedway Inc.
Quick Green Storage	133	Stokes Seeds Ltd.
Bislet	140	Reed's Seeds, 3334 N.Y.S. RT. 215; Cortland, NY, 13045; phone: 607/753-9095

All the above listed varieties showed excellent green color with no trimming required. After 6 months in storage a final evaluation will be made.

## **SEEDING OUTDOORS IN MARCH**

The limited practice used by some growers of seeding in the fall just prior to freeze-up can be extended to seeding in March. If spring should arrive early and soils are dry enough to work, a few very frost tolerant crops can be seeded. The following is a suggestion of crops that can be sown in March and the recommended seed drop to use if seeding with a Stanhay drill.

<u>Crop</u>	<u>Recommended Seed Drop per Foot</u>
Spinach	20
Lettuce - all types	10
Onions - all types	18
Carrots	40
Parsnips	15

Follow the same seedbed preparation practices and seeding depth as with normal spring seeding. Do not encourage soil wind erosion by overworking the soil.

# TRANSPLANTS

## Optimizing Vegetable Bedding Plant Plug Production

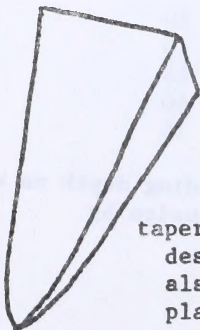
Plugs have become increasingly popular in recent years. Their popularity has grown with the development of less expensive plastic trays and the introduction of mechanical transplanters. Plugs are easy and fast to transplant so crews can work more quickly and efficiently.

The production of plugs is not basically different to traditional methods of bedding plant production. Temperature, light, water, media and nutrients in proper balance produce healthy plants.

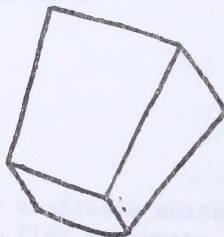
### Trays

Selection of tray must be geared to the method used to transplant the plugs in the field. The bare-root mechanical transplanter is more versatile in that the plug size is less critical to trouble-free transplanting. The speedling transplanter, however, is more limiting despite its improved efficiency. For several years now the general observation and recommendation coming from growers using the speedling transplanter is that plugs from the 128 tray rather than the 200 tray are field set with greater accuracy. This appears to come from the fact that the slightly larger soil ball is heavier and this added dead weight assists the plug to fall more quickly through the vertical shoot in the speedling transplanter model. Smaller, lighter plugs disorientate more frequently during the "drop". This is particularly true where soilless mixes have been used. The addition of compost or soil, being heavier, overcomes the problem and 200 trays can be successfully used.

It should be noted that trays with a taped plug design must be used in all speedling models unless some modifications are made in the feeder cups to handle flat-bottomed plugs.



tapered plug  
design for speedling planters,  
also suitable for bare-root  
planters



flat-bottomed plugs suitable  
only for bare-root planters



## Growing Medium

One of the characteristics that makes a good plug growing medium is air porosity. The air porosity of the medium in a plug tray is usually 0 to 2 percent. Amendments that may be used to increase air porosity to the desirable 20% are sphagnum peat moss, vermiculite, perlite and calcined clay. The cation exchange capacity (CEC) is also important as it determines the amount of nutrients available to the plant. The CEC should be approximately 20 to 25 milligrams/liter. This is only a guideline and should be followed as closely as possible to provide optimum quality seedlings. If the CEC is lower, fertilizer will have to be applied more frequently.

The nutrient charge of the medium should be 1 to 2 millimhos/centimeter for soilless plugs and 0.8 to 1.5 millimhos/centimeter for plugs containing soil. The pH should be 5.8 and maintained between 5.8 to 6.5. Calcium and magnesium are usually too low in most medium and should be monitored by growing medium analysis. Phosphorous should also be closely monitored. If the level is in a high range, it may tie-up iron and cause a deficiency of this element.

### Suggested Mixture for Growing Medium in Plug Production

Ingredients	To Make One Cubic Yard
Shredded Sphagnum peat	$\frac{1}{2}$ yard <sup>3</sup>
*Vermiculite No. 2, 3, or 4	$\frac{1}{2}$ yard <sup>3</sup>
Limestone, dolomitic preferred	5 pounds
20% superphosphate (powdered)	2 pounds
Calcium or potassium nitrate	1 pound
Fritted trace elements	2 ounces
Wetting agent	3 ounces

\* for a mineral based medium reduce vermiculite to  $\frac{1}{4}$  yard<sup>3</sup> and add  $\frac{1}{4}$  yard<sup>3</sup> sterilized loam.

## Fertilizer

If a mineral based medium is used 200 ppm of nitrogen and potassium should be applied in the irrigation water. For a soilless or artificial medium, it is suggested that 250 ppm of nitrogen and potassium be applied in the irrigation water.

When soluble fertilizers are applied, enough irrigation water should be used to moisten all of the medium in the tray. There is a danger of soluble salts accumulation if the medium is not watered thoroughly. Also wash off liquid fertilizers to prevent burning leaves.

Dry fertilizers such as 5-10-5 and 5-10-10 should not be mixed with bedding plant medium with the expectation that enough can be added to last the life of the plug. There is the danger of adding too much and also difficulty in blending it uniformly with other ingredients that make up the growing medium.

### Water Quality

Boron, sodium chloride and bicarbonate are four components of water that should be closely monitored. The boron concentration should be less than one ppm and the chloride concentration should be less than 10 ppm. The sodium absorption ratio should be tested and calculated to determine the effect of sodium on the growth of plug seedlings. The sodium absorption ratio takes into account the total amount of sodium, calcium and magnesium. Water that has a sodium absorption ratio greater than two may be harmful to plants. Bicarbonate is the substance in water that causes the pH of the medium to increase. The total amount of bicarbonate should be less than four milligrams/liter.

To control the pH of the plug medium, use an adequate amount of phosphoric acid to provide 35 to 40 ppm phosphorous. This is enough phosphorous so that no additional sources of phosphorous may be needed. If the pH requires further adjustment, sulfuric acid may be added to the water to lower the pH to 5.8.

### Moisture Management

One of the most critical aspects of plug production is the proper application of water. During the germination stage water should be applied as a fog or fine mist. Moisture may be applied with a boom irrigation system, but careful attention must be given to avoid overwatering. Once seedlings have begun to emerge less water will be required. By applying less water, the medium will not be saturated and will allow more aeration to occur. Once plants approach the size required to field set, plants should be watered thoroughly and dried to almost a point of wilting before irrigating.

### Temperature

Germination temperature will generally be the highest during the growth of the plug. Temperatures approaching 27-30°C (80-85°F) are recommended. After germination the temperature is reduced to 21-22°C (70-72°F) to provide for optimum photosynthesis. To harden-off plants the temperature should be decreased to 15-18°C (60-65°F).

Light

Maximum light is always recommended and should approach at least 4500 foot candles even on a cloudy day.

## Vegetable Plug Production Requirements

Crop	No. Weeks Required	Temperature Required °C (°F)		
		Emergence	After Emergence	Growing-On
Broccoli	6-7	24 (75)	15 (60)	10 (50)
Brussels Sprouts	6-7	24 (75)	15 (60)	10 (50)
Cauliflower	6-7	24 (75)	15 (60)	10 (50)
Cabbage	6-7	24 (75)	15 (60)	10 (50)
Celery	9-10	24 (75)	15 (60)	10 (50)
Eggplant	7-8	27 (80)	21 (70)	15 (60)
Pepper	7-8	27 (80)	21 (70)	15 (60)
Tomato	5-6	27 (80)	18 (65)	15 (60)

Field Transplanting

The bedding plant plug is meant for immediate transplanting into the field. Sometimes the weather does not cooperate and plugs have to be held-over. Holding over actively growing plants slows their growth process and adds to time of production. When plugs are held-over longer than one week, loss of actively growing root hairs occurs. Plants may also become root bound and root bound plants do not take off as quickly, increasing total crop time.

If plugs must be held-over, be careful of temperatures. The goal is to keep roots healthy and actively growing. Soil temperatures should not drop below 16-18°C (62-65°F).

Before field transplanting, water plug trays a couple of hours before hand - this makes them easier to dislodge. A starter ppm solution of 10-52-10 (3 to 4 lbs in 50 gallons water) or similar starter fertilizer will provide the early boost required by these transplants to set new roots in the field.

# 1988 PRICES FOR PLASTIC MULCH & TUNNEL FILM

1. Merlund Plastics Ltd. of Edmonton no longer supply plastic mulch and tunnel film on a regular basis. They will, however, do custom orders. Contact them at 452-2046 or toll free at 1-800-661-9321.
2. Western Concord Manufacturing Ltd. of Edmonton produce plastic mulch and tunnel film but is exclusively sold by Automatic Drip Irrigation Ltd. All orders must be placed through their office in Fort MacLeod. In the future they hope to open an office in Calgary.

Automatic Drip Irrigation Ltd.  
Box 1026  
Fort MacLeod, Alberta

Phone: 553-2684

All orders should be placed before March 31 in order to meet their scheduled delivery period in early spring. Also, all orders placed by March 31 receive a 10% discount. Delivery charges are in addition to the prices quoted below.

	Width (ft.)	Length (ft.)	Color	Price Per Roll
Plastic Mulch:	3	500	black	\$13.72
	3	2000	black	\$55.25
	4	500	black	\$18.20
	4	2000	black	\$72.80
	4	500	clear	\$24.38
	4	2000	clear	\$97.56
Plastic Mulch Perforated:	3	500	black	\$14.50
	3	2000	black	\$57.75
	4	500	black	\$19.31
	4	2000	black	\$78.00
	4	500	clear	\$25.35
	4	2000	clear	\$101.40
Tunnel Film 1½" holes at 12" spacing:	6	500	clear	\$46.09
	6	2000	clear	\$165.75

cont'd

	Width (ft.)	Length (ft.)	Color	Price Per Roll
Tunnel Film				
Perforated Ultra				
Violet Treated:	6	500	clear	\$59.54
	6	2000	clear	\$232.00

**Note:** Wire for the hoops is #9 galvanized. It is made by Tree Island Steel Co. Ltd. in Edmonton (465-0913) and may be purchased in any hardware store.

## **FLOATING MULCH**

Floating Mulches seem to be a very promising cover for vegetable crops. They are a spun-bonded polyester (white, cloth-like non-woven material) which originated in disposable diapers and is widely used by seamstresses as interfacing. The material is lightweight and able to "float" on the crop thus wire hoops are not necessary. It is also porous to water and naturally ventilated, yet holds in sufficient heat to improve growth. It also provides insect exclusion, bird protection, better suitability to taller crops and desiccation protection. This material is available in wide widths and can be easily applied, allowing for reduced labor costs and for rapid application when frost is expected. If mulches or herbicides are not used, weed control is required. The material is usually used for 3 to 6 weeks in spring to increase soil temperature and encourage earlier seed germination, then again in fall for frost protection. This material may be used for at least 2 seasons.

### **Distributor for floating mulch in Alberta:**

Some of you are familiar with Kimberly and Reemay floating mulches. The material called Agryl P17 is available in Alberta. It has 88% light transmission, weighs 0.5 oz/sq. yd. and has a frost protection of approximately 3°F in spring and 7°F in fall. It comes in widths of 4, 6.5, 10.5 and 12.75 meters; a length of 250 meters and sells for approximately 40¢/sq. m. It is available through:

Texel  
Geotextile Canada Incorporated  
7610C - 5th Street, SE  
Calgary, Alberta T2H 2L9

Contact: Barry Grundy  
Phone : (403) 258-0255

The department has had no experience with floating mulch material, nor with Agryl P17 in Alberta. This information has been acquired from the distribution and American Vegetable Grower, May 1983 issue and January 1988 issue.

## **PROCESSING EQUIPMENT SUPPLIER**

DANI Farm Supply Ltd. in Red Deer has a complete line of processing equipment for vegetables. Here is a list of some of the new machinery they supply:

- 1) Sorting machines, suited only for potatoes and onions.
- 2) Automatic weight and bagging machine for carrots and similar crops. Cap. up to 25 bags per minute.
- 3) Computer controlled automatic weight and bagging machine for carrots, potatoes onions and similar crops. High capacity and extremely low give-away.
- 4) Automatic bag counter and sack roundabout.
- 5) Automatic weighing or counting machine for round products such as orange and grapefruit.
- 6) Broken carrot drum, an efficient way of removing broken and undersized carrots.

For their scheduled June delivery period, orders have to be submitted before May 1, 1988.

To be eligible for a government grant for purchasing processing equipment, applications must be made through Alberta Marketing Services, (contact Carol Love-Rolheise 427-7366, Edmonton) and accepted before machinery purchases can be made.

## **NEW PESTICIDE REGISTRATIONS**

### 1. HERBICIDES

Cucumbers and Garlic

- Poast EC 184 g/L to control grasses at a rate of 0.8 - 4.4 L of product per hectare depending on the weeds present.

Asparagus (established planting)

- Treflan 545 EC 545 g a.i./L to control annual grasses and broadleaf weeds at a rate of 1.8 L of product per hectare in light soil and 2.7 - 3.7 L in medium to heavy soil.

### 2. INSECTICIDES

Flea Beetle

- Vitavax RS flowable as a seed dressing on direct seeded rutabagas (22.5 ml product per kg of seed) cabbage, cauliflower and broccoli (22.5 ml or 31 g product per kg of seed).

## **VEGETABLE GROWERS' FIELD DAY - JULY 25**

A field day at the Research Center in Brooks and area is planned for July 25. There will be tours of research trials plus equipment demonstrations of interest to market garden and commercial vegetable growers. Tours of producer farms in the area is also planned. Vegetable producers, representatives of marketing agencies plus university and government research and extension personnel from Saskatchewan and Manitoba will be present. It will be a good opportunity to meet growers from other areas and also see what is new on the market in varieties and equipment.

We are trying to arrange transportation to Brooks from Edmonton but this is not a firm commitment yet.

Plan to attend. More details will be announced in later newsletters.

## **MISCELLANEOUS**

Just a couple of reminders while you're busy planning your acreage and ordering your seeds, fertilizers, pesticides, etc.:

1. Send in your Stanhay seed belts to be punched to fit your seed well before spring arrives. Belts can be purchased from Milliken Farm Supplies in Taber (ph. 403 223-4437) then taken to your nearest Alberta Agriculture Office, to be sent by government courier to the Alberta Special Crops and Horticulture Research Center in Brooks. Also, send a seed sample (a hand full) to work with and some instructions outlining the number of holes per belt, etc. Belts are punched free of charge.
2. Westcan Horticultural Specialists Ltd. have gone into receivership. Another distributor in Alberta that supplies hot caps is not known yet. These hot caps are manufactured in California and at present the manufacturer is sold out. For other greenhouse supplies and materials phone Paul Ragan (362-3391) or Belinda Choban (973-3351 before March 7, or 472-6043 after March 7) for alternative suppliers.

# MARKETING SEMINAR FOR COMMERCIAL VEGETABLE GROWERS

Date: March 21, 1988  
 Location: Capri Center, Red Deer  
 Time: 9:00 a.m.  
 Registration Fee: \$10.00

## TOPICS - Morning

1. The frustration of a new grower trying to market wholesale.  
 - Jim Crockett of Beck Farms in Innisfail.
2. Packaging and grade standards required for the wholesale market and inspection requirements.  
 - Jim Muir of Agriculture Canada Food Inspection Division
3. Grants, loans and other forms of assistance available for vegetable producers.  
 - Carol Love-Rolheiser, Alberta Agriculture
4. Pricing policy, market strategies and promotions.  
 - Sharon Chmielewski, Secretary/Manager AFVMB

## TOPICS - Afternoon

A candid panel discussion by several produce wholesale buyers will cover crop by crop details pertaining to container types and size required, icing, hydrocooling, bulk vs boxed or sacked, arrangement of produce in box, wrapping and tying, pallet size and number of boxes per pallet, etc. Representatives from the following will be present:

Associated Grocers  
 Scott National  
 Western Grocers  
 Grocery People  
 Horne & Pitfield  
 MacDonald's Consolidated

Phone Paul (362-3391) or Michele (973-3351) to pre-register.



## FOR SALE

1. EQUIPMENT for sale contact: Dennis Fauth  
Phone: (403) 223 3566
  - a. Three - Model 20 FMC 2 row corn harvester mounted on 1650 Cockshutt tractor (approximately 65 HP) complete with 2.5 ton hopper, \$7500.
  - b. Five - FMC tractor drawn pea harvester complete with 65 HP slant 6 Chrysler engine, \$500.
  - c. Three - Potato boxes with conveyor chain at base, approximate capacity 7 ton (12' x 8'), \$800.
  - d. Six - 1965 Cockshutt tractor, Model 1650 with 65 HP, no 3-point hitch, excellent row-crop tractor, \$3,500.
  
2. EQUIPMENT for sale contact: Hole's Greenhouse & Garden Ltd.  
Bellerose Drive, St. Albert, AB.  
Phone: (403) 459-8579  
(403) 459-6498
  - a. "LINDIG" Soil Shredder with 1 HP electric motor and 100 ft. long extension cord.  
Price: \$500.00
  - b. "LANSA" ½ cubic yard soil pasteurizer.  
Price: \$750.00
  - c. Massey Ferguson 8 ft. 3 pt. hitch disc, EXCELLENT condition.  
Price: \$500.00
  - d. John Deer 3 pt. hitch field sprayer.  
Price: \$200.00
  - e. Miscellaneous 2-5" irrigation pipe. Priced per length.
  
3. EQUIPMENT for sale contact: Riverside Vegetable Farms  
Walter Ferchoff  
Phone: (403) 921-3757 - office  
(403) 923-3232 - home
  - a. 1972 Ford F3-5D, 1 ton cube van box with overhead, roll-up rear door.
  - b. Single row Holland Transplanter good for small acreage/market gardener.
  - c. 1A-Frame for 3 pt. hitch, good to mount seeders or tool bar.
  - d. 1 - 7 HP air cooled irrigation pump, gas motor with 2" suction and 1½" discharge pump, some sprinklers included; good for small acreage/market gardener.

4. SEED POTATO for sale contact: Riverside Vegetable Farms  
 Walter Ferchoff  
 Phone: (403) 921-3757 - office  
 (403) 923-3232 - home

- a. Red Norlands
- b. Yukon Gold (yellow flesh potatoes)
- c. Netted Gem

5. MARKET GARDEN BUSINESS for sale.

Two miles west of Sylvan Lake, Alberta:

- Three acre building site
- Two acres cultivated
- Four Greenhouses - 20' x 64' (frame construction with reinforced poly cover)
- Two water wells - unlimited supply
- John Deere 300 garden tractor (c/w mower, tiller & dozer blade)
- misc. garden equipment
- supplies on hand

Plus

- 1452 sq. ft. 3 bedroom bungalow and single garage.

Price: \$186,500.00

For further information call:

Craig MacKenzie

342-6464 (24hrs)  
 Kenstar Realty Ltd.  
 Red Deer, Alberta

## ***JOB OPPORTUNITIES***

**Wanted:** 2 men to work full-time on large irrigated mixed farm south of Taber. Some knowledge and skill in row crop production desired. Monthly salary of \$2,000 includes housing and utilities. Contact Claude Cyr at 223-1154.

## Are You Making Full Use Of The Regional Information Telephone Enquiry (RITE) System

Financial Management Section, Farm Business Management Branch

RITE stands for Regional Information Telephone Enquiry. The system is intended to provide private citizens of Alberta with a convenient, free-of-charge means of securing information from various government departments.

There are 34 RITE centres throughout the province with a trained information operator to help you. If you have an enquiry that you want to direct to a government department but are not sure to whom to direct it, you can simply phone the RITE operator. The operator will put you in contact with the proper department and, where possible, to the correct individual within the department. However, if the information is not available at the local level, the operator will then transfer your call to a major government centre. This is done at no charge to you. The operator will also stay on the line until satisfied that you are connected with the department or person who can respond to the enquiry.

If you know the department number, the information operator can connect you to the proper individual. If you are dealing with an individual frequently, and know their number, you can get connected to the individual directly by simply giving the operator the number.

The RITE system is available to all citizens who wish to obtain personal information from a government department. It is also available to charitable organizations as well as to charitable nonprofit organizations. It is not available, however, to municipal governments, counties, school boards, the federal government or private businesses. To get access to the RITE system look in your AGT telephone directory under "Government of Alberta". Every town, village, and hamlet in Alberta has a separate directory listing for the government of Alberta.

If you live far from a toll-free RITE centre, you can phone free of charge by dialing "0" and asking the AGT operator for the toll-free number listed in your AGT directory. The call would then be connected, toll-free, to the closest RITE centre.



Photo Courtesy of Paul Gervais

Arlene Patzwald, Olds RITE Operator

Current RITE locations are shown on the attached map. If you need additional information or have a specific enquiry, contact RITE Center 427-4352.

*Prepared by James Obniawka  
Farm Business Management Branch  
Olds, Alberta*

# LOCATION OF R.I.T.E. CENTERS

